

FIG. 1

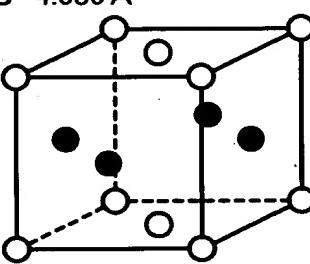
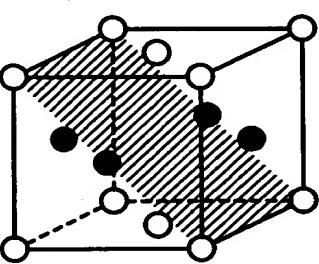
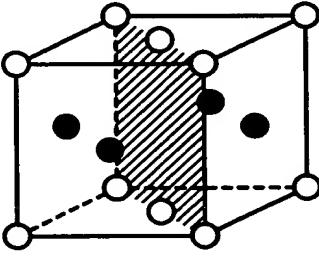
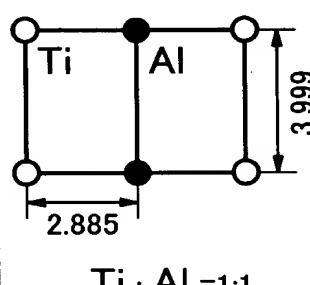
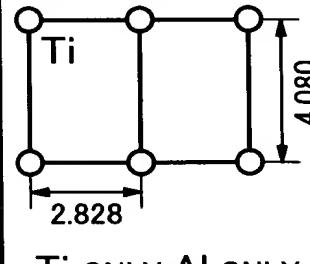
CRYSTAL STRUCTURE	LATTICE PLANE PARALLEL TO THE SUBSTRATE SURFACE (ORIENTATIONAL PLANE)	IN-PLACE CRYSTAL LATTICE
L₁₀ TYPE STRUCTURE TiAl_{50} $a=3.999 \text{ \AA}$ $c=4.080 \text{ \AA}$  <p>NUMBER OF ATOMS IN UNIT CELL Ti ATOM : 2 Al ATOM : 2 COMPOSITION IN UNIT CELL $\text{Ti : Al} = 1:1$</p>	<p>(101), (011)</p>  <p>(110)</p> 	<p>IN-PLACE CRYSTAL LATTICE</p>  <p>$\text{Ti : Al} = 1:1$</p> <p>THIS ORIENTATION IS DIFFICULT</p>  <p>Ti ONLY Al ONLY</p>

FIG. 2

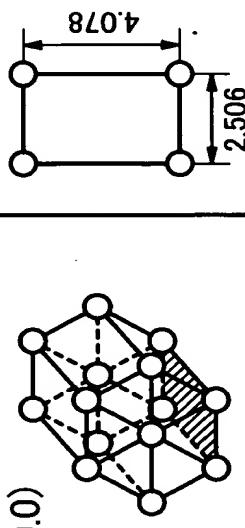
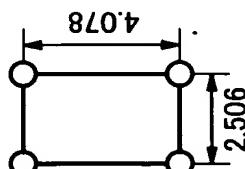
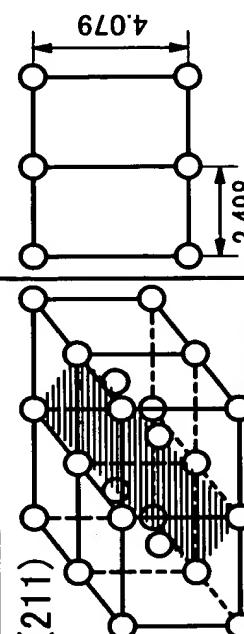
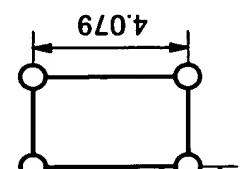
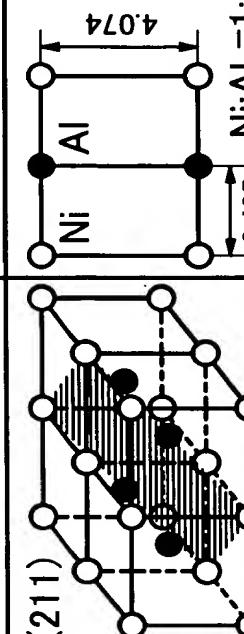
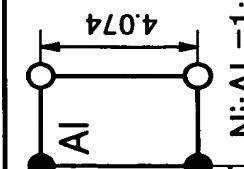
CRYSTAL STRUCTURE	LATTICE PLANE PARALLEL TO THE SUBSTRATE SURFACE (ORIENTATIONAL PLANE)	
	IN-PLACE CRYSTAL LATTICE	
MAGNETIC LAYER Co $a=2.506\text{\AA}$ $c=4.078\text{\AA}$	(10.0) 	
UNDER LAYER Cr $a=2.884\text{\AA}$	(211) 	
ORIENTATION CONTROL LAYER HAVING B2 TYPE CRYSTAL STRUCTURE NiAl ₅₀ $a=2.881\text{\AA}$	(211) 	

FIG. 3

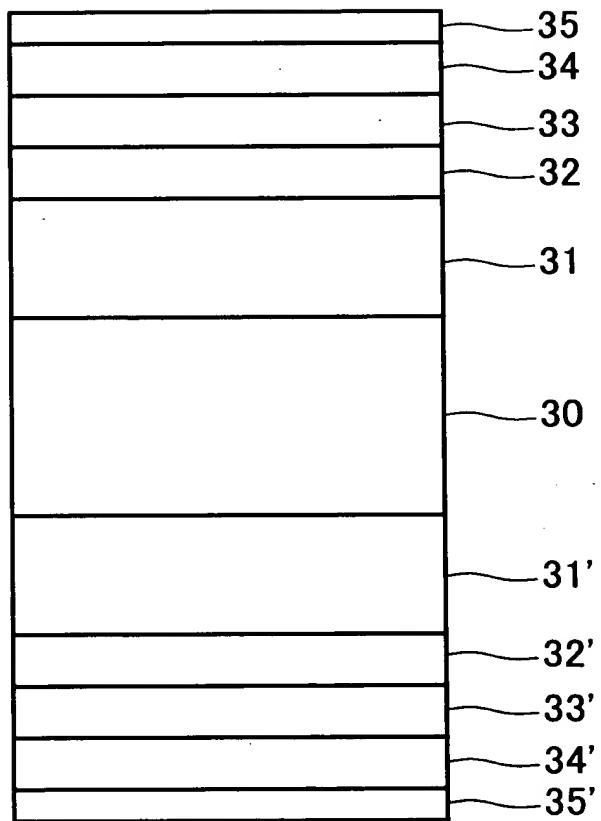


FIG. 4

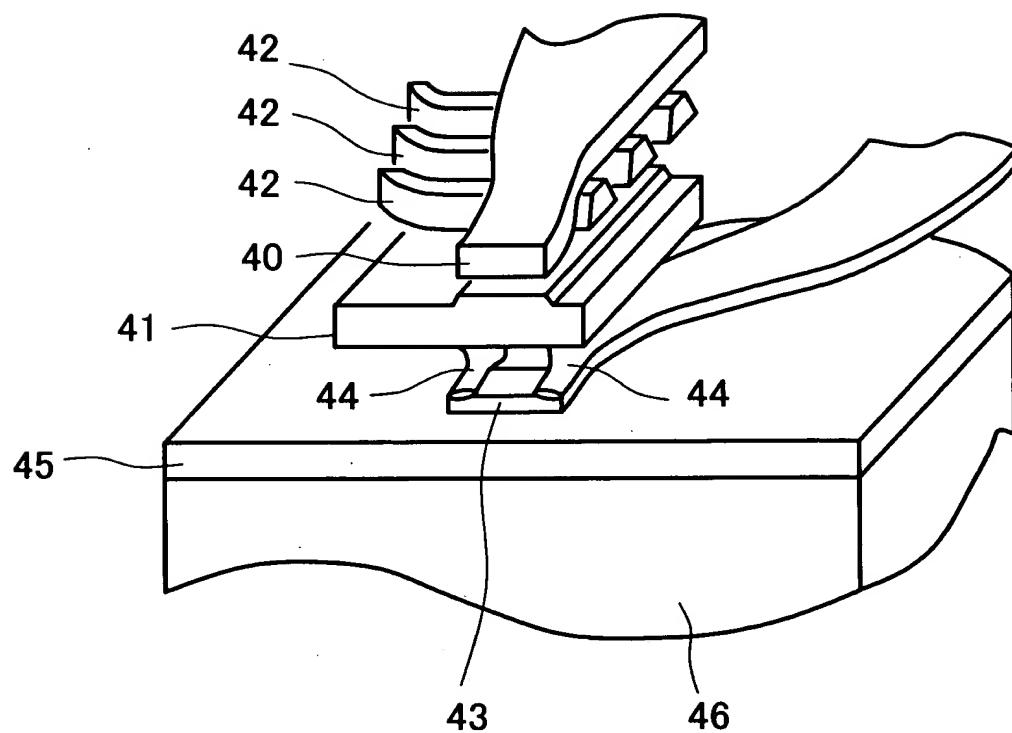


FIG. 5

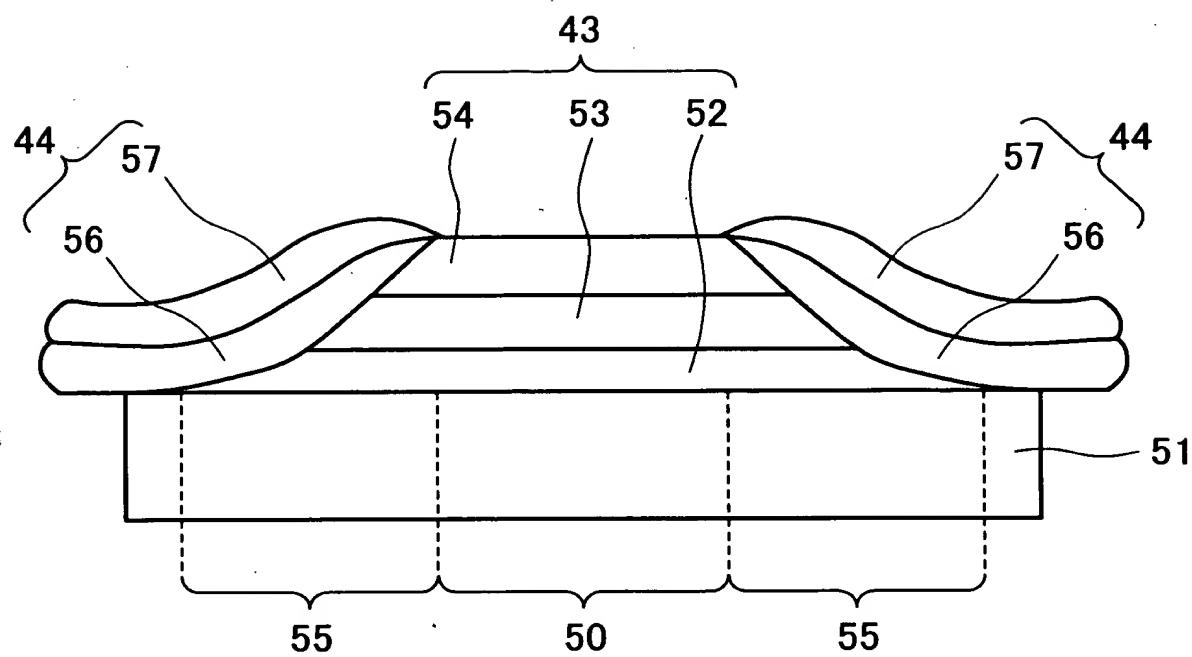


FIG. 6

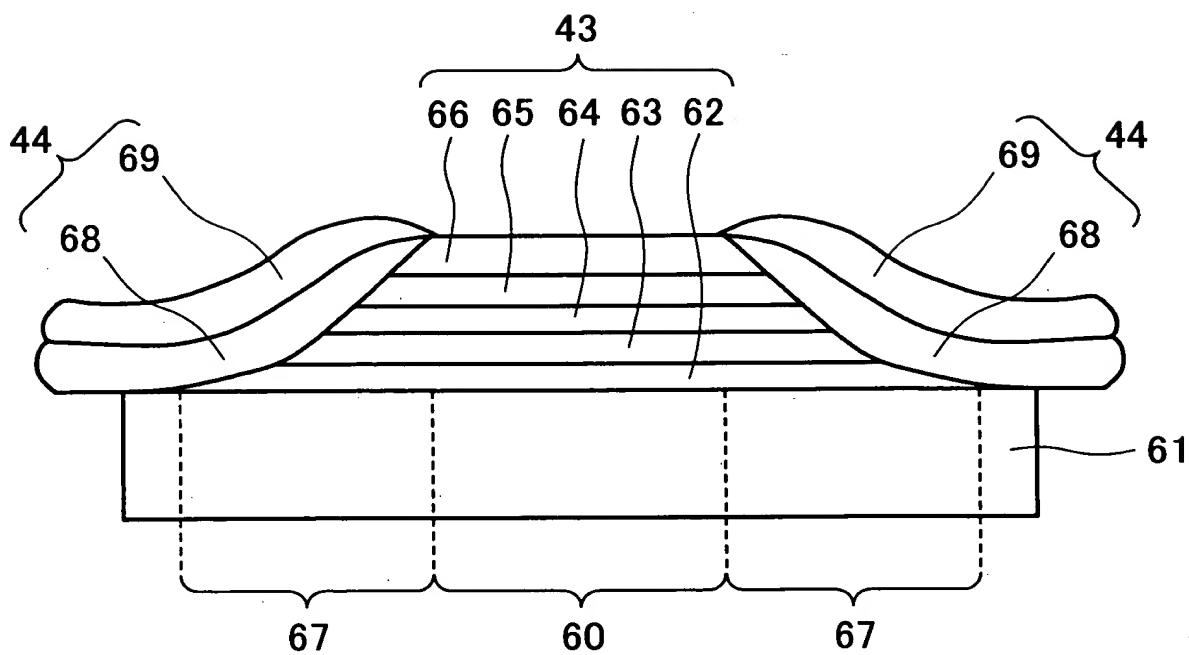


FIG. 7A

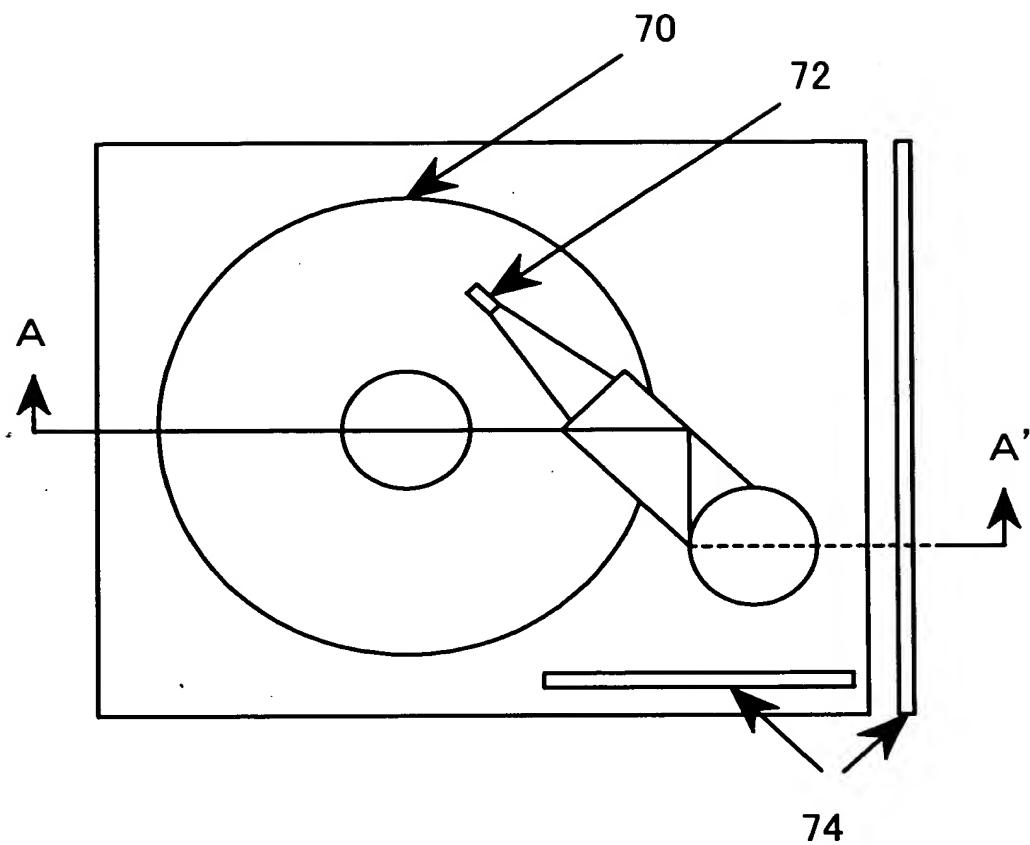


FIG. 7B

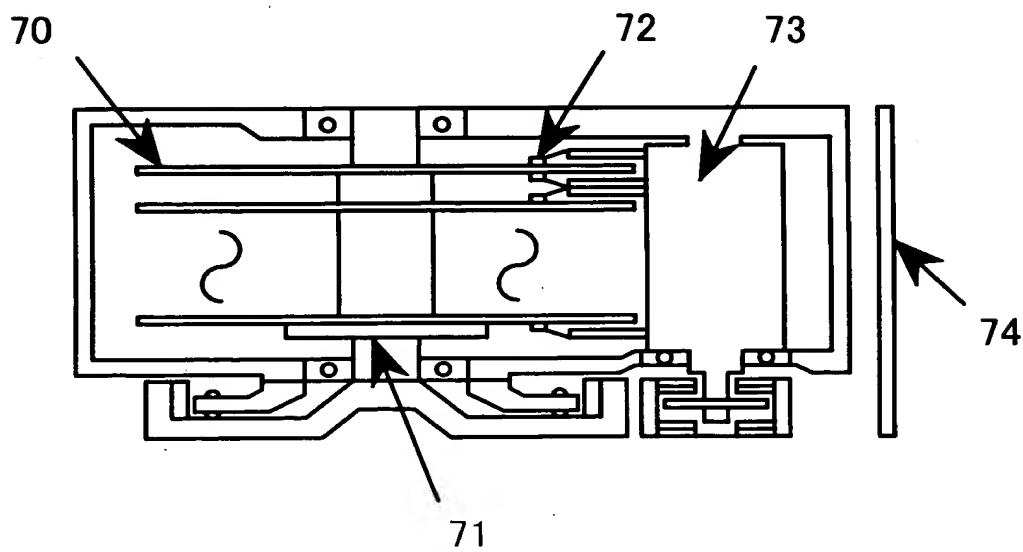


FIG. 8

	Hc[kOe]	S*	MEDIA NOISE
EXAMPLE 1	3.8	0.85	1.0
COMPARISON 1	3.0	0.70	2.0

FIG. 9

	C _o C _r P _t (10,0) DIFFRACTION INTENSITY BY XRD (RELATIVE INTENSITY)
EXAMPLE 1	1.0
COMPARISON 1	0.7

FIG. 10

	Hc[kOe]	S*	MEDIA NOISE
EXAMPLE 2	3.8	0.85	1.0
COMPARISON 2	3.0	0.70	2.0

FIG. 11

	C _o C _r P _t (10,0) DIFFRACTION INTENSITY BY XRD (RELATIVE INTENSITY)
EXAMPLE 2	1.0
COMPARISON 2	0.7

FIG. 12

CRYSTAL STRUCTURE \cdots L₂₁TARGET \cdots NiAl₂₅Ti₂₅ ($a=5.87 \text{ \AA}$)• NUMBER OF ATOMS
IN UNIT CELL

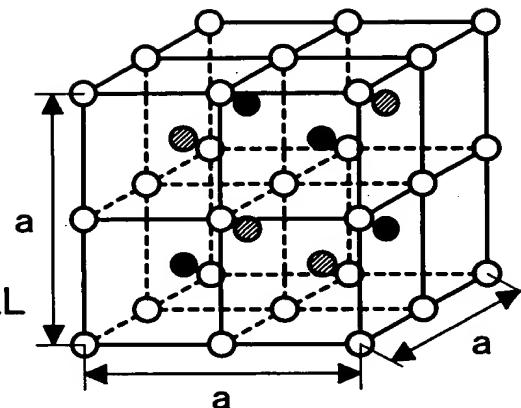
Ni ATOM : 8

Al ATOM : 4

Ti ATOM : 4

• COMPOSITION IN UNIT CELL

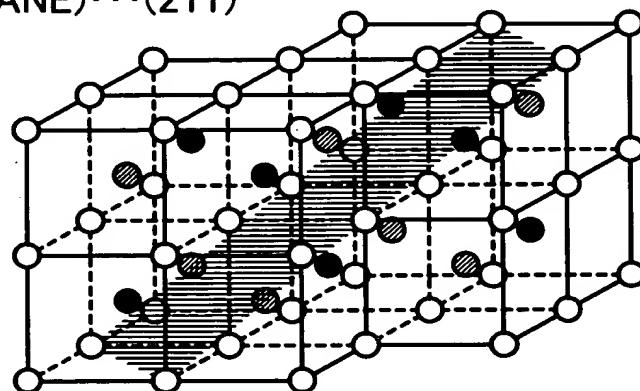
Ni:Al:Ti=2:1:1

LATTICE PLANE PARALLEL TO THE SUBSTRATE SURFACE
(ORIENTATIONAL PLANE) \cdots (211)

○ Ni ATOM

● Al ATOM

● Ti ATOM



IN-PLACE CRYSTAL LATTICE

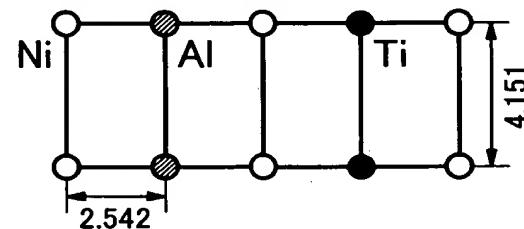
COMPOSITION IN UNIT CELL \cdots Ni:Al:Ti=2:1:1

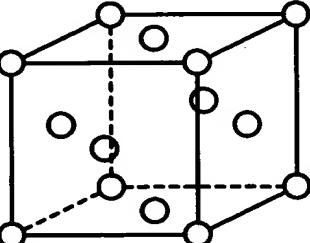
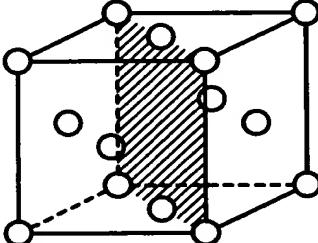
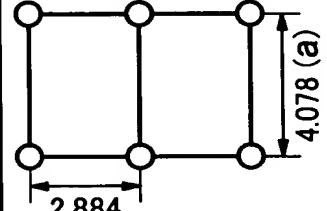
FIG. 13

	Hc[kOe]	S*	MEDIA NOISE
EXAMPLE 3	3.5	0.80	1.0
COMPARISON 3	3.0	0.70	1.7

FIG. 14

	C _o C _r P _t (10,0) DIFFRACTION INTENSITY BY XRD (RELATIVE INTENSITY)
EXAMPLE 3	1.0
COMPARISON 3	0.7

FIG. 15

CRYSTAL STRUCTURE	LATTICE PLANE PARALLEL TO THE SUBSTRATE SURFACE (ORIENTATIONAL PLANE)	IN-PLACE CRYSTAL LATTICE
f.c.c. STRUCTURE Au $a=4.078 \text{ \AA}$ 	(110) 	

ELEMENT	$a \text{ \AA}$	$a\sqrt{2}/2 \text{ [\AA]}$
Al	4.051	2.864
Cu	3.615	2.556
Rh	3.803	2.689
Pd	3.890	2.751
Ag	4.086	2.889
Ir	3.839	2.715
Pt	3.923	2.774
At	4.078	2.884

FIG. 16

	Hc[kOe]	S*	MEDIA NOISE
EXAMPLE 4	3.2	0.80	1.0
COMPARISON 4	3.0	0.70	2.0

FIG. 17

	C _o C _r P _t (10,0) DIFFRACTION INTENSITY BY XRD (RELATIVE INTENSITY)
EXAMPLE 4	1.0
COMPARISON 4	0.8

FIG. 18

